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## **ABSTRACT**

An atrial defibrillator includes a portable, non-implantable housing, a pair of defibrillator pads, a shock generator, and an analyzer. The pads are applied to the outside of a patient's body, and the shock generator delivers a shock to the patient via the pads. The analyzer receives a cardiac signal from the patient, determines from the signal whether the patient is experiencing atrial fibrillation, and enables the shock generator if the patient is experiencing atrial fibrillation. Unlike conventional external atrial defibrillators, such an atrial defibrillator can be used by a layperson in the comfort of a patient's own home. Furthermore, such a defibrillator does not cause the surgery-related problems associated with implantable atrial defibrillators. Moreover, because the patient can choose when to receive a shock, such a defibrillator is less likely to surprise and embarrass the patient than automatic implantable defibrillators are.